

This amendment finds clear basis in the specification as filed and has been made to the claim to clearly define the invention.

Reconsideration and withdrawal of the rejection of the claims as being anticipated by Coplan et al are requested. The examiner recognizes that Coplan et al does not disclose nor in any way remotely suggest the manufacture of a sustained release pheromone dispenser which has an annular portion as set forth in the present claims. Most certainly, Coplan contains no disclosure or suggestion of the step of pulling apart the central portions of side by side tubes to create an annular portion. Consequently, this reference in no way anticipates the present invention as claimed and most certainly, contains no disclosure which might possibly suggest the method as claimed.

Accordingly, it is submitted that this application is now in condition for allowance and favorable reconsideration and prompt notice to that affect are earnestly solicited.

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Encls.: Marked-up copy of page 1 of the specification;
Marked-up copy of claim 6.

Respectfully submitted,
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By: 

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Annular Sustained Release Pheromone-Dispenser and its Installation Tool

--This application is a divisional of prior application No. 09/173,411 filed on October 15, 1998 and issued on April 17, 2001 as U.S. Patent No. 6,216,960. --
Background of the Invention

5 The present invention relates to an annular sustained release pheromone-dispenser which can release a synthetic sex pheromone in the air to control the harmful insects by disturbing the copulative communication of the insects as well as a method for preparing the pheromone-dispenser and a tool for installing the pheromone-dispenser.

10 The control of a harmful insect through disturbance of the copulative communication thereof is carried out by releasing the synthetic sex pheromone of the insect to be controlled in the air to thus reduce the rate of copulation through the disturbance of their copulative communication and to thereby inhibit the breeding of the next generation. Therefore, a pheromone-dispenser for
15 releasing a synthetic sex pheromone should satisfy such a requirement that it can stably release the sex pheromone over the entire term (2 to 6 months) of the occurrence of the corresponding harmful insect.

 The pheromone-dispensers which have already been put on the market are designed in such a manner that a liquid synthetic sex pheromone is
20 enclosed in, for instance, a tube type, bag type, bottle type or spiral tube type plastic container and the sex pheromone which diffuses and permeates through the wall of the container is evaporated and released into the air. Among these pheromone-dispensers, those generally referred to as the tube type ones employ a plastic tubular container (slender tube) and show the most excellent
25 control effect as compared with the other type ones since they can release the

predetermined pitches by heating under a pressure and then cutting them at each fused portion.

6. The method for preparing an annular sustained release pheromone-dispenser as set forth in claim ⁻⁻¹⁰⁻⁻5 wherein the plurality of plastic tubes are fused

5 by heating under a pressure after sandwiching the portion to be fused between a pair of pieces made of a plastic identical to that of the plastic tubes.

7. A method for preparing an annular sustained release pheromone-dispenser comprising the steps of extruding a plastic through a die which comprises a plurality of holes each having a core and a slit connecting the
10 plurality of holes to thus continuously form a plurality of plastic tubes connected together through a web formed by the slit; forming a cut on a part of the web, extending along a direction in agreement with the longitudinal direction of the plastic tubes; filling each of the plurality of plastic tubes with a synthetic liquid sex pheromone; and then closing both ends of each plastic tube.

15 8. A tool for installing an annular sustained release pheromone-dispenser having hooks for attaching or detaching the annular sustained release pheromone-dispenser as set forth in claim 1 or 2, which are pulled apart from each other, the hooks being fitted to both upper ends of the wire with the lower end of the wire being secured to the top end of a rod.